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A
LETTER TO THE PATENTEE,
CONCERNING THE
MEDICAL PROPERTIES
OF THE
FLEECY HOSIERY.

BY WILLIAM BUCHAN, M. D.

AUTHOR OF DOMESTIC MEDICINE.

— *Rigid Winter's Ice no more shall wound*

The only naked Animal ; but Man

With the soft Fleece shall every where be clothed.

DYER'S FLEECE.

THE FIRST AMERICAN EDITION,
WITH ADDITIONAL NOTES AND OBSERVATIONS
BY THE EDITOR.

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—1794.—

A D V E R T I S E M E N T.

DR. BUCHAN, with his usual liberality, not only complied with the request of the Patentees, to allow his letter to be made public, but has improved this Edition by several new articles and observations, which have occurred since its first publication, tending further to illustrate the medical uses of the Fleecy Hosiery. The Patentees have also to acknowledge their obligations to many friends, for letters containing accounts of the benefits they have received from this manufacture. From these letters the Editor has selected a few cures, which are inserted as notes in this Edition, together with some extracts from a Treatise on Tropical Diseases, written by the judicious Dr. Moseley, whose ideas, founded on extensive practice and observation, entirely coincide with those of Dr. Buchan, concerning the benefits of woollen garments worn next the skin, which Dr. Moseley found to be no less necessary in the hottest than they are in the coldest climates.

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T O

M R. G. H O L L A N D, F. S. A.

MANUFACTURER OF FLEECY HOSIERY.

S I R,

I AM favored with yours of January 30th, inclosing some specimens of your FLEECY HOSIERY, and requesting my opinion concerning its medical properties, and the diseases in which I think it is most likely to prove beneficial to mankind.

As you assure me that the first hint of the medical utility of your manufacture was taken from my DOMESTIC MEDICINE, and that the favorable opinion which I expressed of the small sample you shewed me some time ago, had induced you to take out a Royal Patent for making it, I find myself called upon to support my opinion ; and I comply with your request the more readily, as I am convinced that your discovery will prove of essential service to many of my fellow creatures, labouring under the most obstinate maladies.

Every one who is at all conversant in these matters knows, that, in this country, the most fruitful source of disease is obstructed perspiration. While the secretion from the skin goes duly and uniformly on, few diseases affect even the weak and delicate ; but where this is obstructed the most robust cannot long enjoy health.

The celebrated Sanctorious says, the insensible perspiration alone discharges more than all the sensible evacuations together ; and that the proportion of this to all the other evacuations, is as five to three : though this proportion varies in different ages, climates, and constitutions, yet it is of such importance in all, that where it is in any considerable degree deficient, a diseased state of the body will ensue.

Our insular situation renders the atmosphere of this country liable to great and frequent changes, and as these changes are often very sudden, every one ought, as far as lies in his power, to guard against their influence, by adapting his clothing to the season of the year, and the state of the weather. In doing this he only imitates Nature, who never fails to fortify those animals which are left to her care against the inclemency of the seasons, in those countries where they are produced. Thus we find the foxes, bears, and other animals, in cold climates, covered with a thick coat of fur, which keeps continually varying with the seasons, and gradually becoming longer and thicker, as the cold increases.

What Nature does for the brute creation, art enables man to do for himself, and he seldom errs in copying her. Care is no doubt necessary in making these changes ; but even here Nature has not left us without a guide : she effects this purpose by slow gradations, and never starts from one extreme to another. Though man cannot copy her exactly in this respect, yet it is in his power to avoid all great and sudden

transitions.* Those who heap on loads of clothes on the approach of winter, and are so imprudent as to throw them off, at once, on the first appearance of spring, have only themselves to blame, if the consequences prove hurtful.

There is indeed a great source of deception in our seasons ; sometimes the winter sets in with all its rigour before it is expected ; at other times it continues mild throughout, and there is occasion for little additional clothing, even to the delicate. But the most irregular season, in this country, is spring. We have often in March, or April, a few days so warm as to make us believe the summer is arrived, when all of a sudden it becomes more intensely cold than in the middle of winter. Indeed December is sometimes mild throughout, while every day of June is cold and wet.

This irregularity of our seasons, renders it very difficult to lay down particular rules for regulating the clothing of invalids. It is their business, therefore, to watch the changes of the weather ; and, as far as they conveniently can, to counteract their influence, by suiting their clothing to the temperature of the air. The hardy and robust have indeed less to fear from the changes of weather ; but there is no person so strong as to be wholly superior to their influence, and the fool-hardy often lose their lives by despising it.

* Having dresses fleeced of different thicknesses, the clothing may be varied by imperceptible degrees, from the thickest and warmest, to the thinnest, coolest and lightest clothing of all others. F. W.

The most proper clothing for counteracting the inclemency of our atmosphere, is certainly that which affords the greatest warmth with the least weight. There has not been hitherto, in the article of clothing, any thing invented, where these properties have been so happily combined, as in your PATENT HOSIERY. I am informed that a single blanket can be made equal, in point of warmth, to six of the common sort, while it does not exceed the weight of one.*

This difference, in respect of weight, is of great importance to the invalid. Hardly able to support his own weight, he can still less bear a load of clothing ; and even to those who are able to bear a load of clothes they prove hurtful. They compress the vessels, and impede the free circulation of the fluids, on which not only health, but even life itself depends ; besides, they encumber the body, and render it less fit for active exertions.

The manner in which your FLEECY HOSIERY is made, gives it a degree of elasticity not

* Sir PETTY in his Political Anatomy of Ireland, observes, with regret—" That the art of making the *excellent, thick, spongy, warm* Coverlets seems to be lost." FLEECY COVERLETS or BLANKETS, possess all the good qualities which Sir W. PETTY speaks of, and are, moreover, recommended by their peculiar lightness.

The lightness of FLEECY BLANKETS must recommend them to the military ; for the celerity in the movements of an army, upon which so much depends, must always be in proportion to the weight of baggage they have to carry. The judicious Dr. MOSELEY in his Treatise on Tropical Diseases, the 2d edition, observes, " That the clothing of the British troops were furnished with last war, in the West-Indies, was too heavy for the climate ;" and he represents it as absolutely necessary for officers and soldiers, on actual service in hot climates, to have clothing possessing, "*warmth without incumbrance.*" F. W.

possessed by cloth of any kind ; from which many advantages are derived. Thus it adapts itself more readily to the figure of the body, or of any part to which it is applied ; and, by acting like a perpetual spring, the friction is increased, by which means the discharge from the skin is promoted, and at the same time carried off by the conducting power of the wool.

In point of cleanliness, its preference to fur must be obvious to every one. It is not only free from the unpleasant smell which accompanies skins of all kinds ; but it can, at any time, be washed with the greatest ease, and without any considerable expence, or diminution of its properties ; besides it is certainly less apt to harbour virmin, or communicate infection, than the skins of animals, which though no way superior, are much more expensive.*

But the most decided superiority of the FLEECE-HOSIERY, consists in the powers which wool is found to possess, over all other articles of clothing, in absorbing and conducting moisture. This appears from the experiments read before the Royal Society by Sir Benjamin Thomson, which were made with a view to as-

* A variety of new articles are now manufactured in imitation of furs ; which, for many purposes, are preferred to furs : and by means of further improvements, that are in contemplation, there are hopes of rendering furs unnecessary, in a great measure, either as objects of elegance or use.

We might have inserted here, a statement of the prices of sundry articles heretofore made only of fur, contrasted with a statement of the prices of similar articles, manufactured in imitation of furs, greatly in favor of the last.

At page 35, under the head of " Articles fleeced or furred of the thickness of No. 3, and upwards," the reader will see what progress has been made towards supplying the place of furs and eiderdown. F. W.

certain the powers of different substances, in absorbing moisture from the atmosphere.

These experiments were made with sheep's wool, beaver's fur, eiderdown, cotton, wool, linen, and silk; and the result was, that wool possessed a greater power of absorbing moisture than any of the others, and was likewise better calculated for conducting or carrying off the superfluous moisture from the body.* Sir Benjamin's experiments are made with accuracy, and the conclusions drawn from them tend so fully to establish the superiority of your manufacture over every other species of clothing, that I shall take the liberty of inserting the ingenious author's inductions in his own words.

“ I was totally mistaken,” says this candid writer, “ in my conjectures relative to the results of the experiments with the other substances. As linen is known to attract water with so much avidity, and as, on the contrary, wool, hair, feathers, and other like animal substances, are made wet with so much difficulty, I had little doubt but that linen would be found to attract moisture from the atmosphere with much greater force than any of these substances, and that, under similar circumstances, it would be found to contain far more water; and was much confirmed in this opinion, on recollecting the great difference in the apparent dampness of linen and woollen clothes, when they were both exposed to the same atmosphere. But these experiments have convinced me, that

* And of course these experiments prove in particular, among other things, the superiority of FLEECE COVERLETS to eiderdown quilts in point of wholesomeness. F. W.

all my speculations were founded on erroneous principles.

“ It should seem those bodies which are the most easily wetted, or which receive water, in its unelastic form, with the greatest ease, are not those which in all cases attract the watery vapour dissolved in the air with the greatest force.

“ Perhaps the apparent dampness of linen, to the touch, arises more from the ease with which that substance parts with the water it contains, than from the quantity of the water it actually holds ; in the same manner as a body appears hot to the touch, in consequence of its parting freely with its heat, while another body, which is actually at the same temperature, but which holds its heat with greater obstinacy, affects the sense of feeling much less violently.

“ It is well known that woollen clothes, such as flannels, &c. worn next the skin, greatly promote insensible perspiration. May not this arise principally from the strong attraction which subsists between wool and the watery vapour which is continually issuing from the human body ? That it does not depend entirely upon the warmth of that covering is clear ; for the degree of warmth produced by wearing more clothing of a different kind, does not produce the same effect.

“ The perspiration of the human body being absorbed by a covering of flannel, is immediately distributed through the whole thickness of that substance, and by that means exposed to a very large surface to be carried off by the

atmosphere ; and the loss of this watery vapour which the flannel sustains, on the one side, by evaporation, being immediately restored from the other, in consequence of the strong attraction between the flannel and the vapour, the pores of the skin are disencumbered, and they are continually surrounded by a dry, warm, and salubrious atmosphere.

“ I am astonished that the custom of wearing flannel next the skin, should not have prevailed more universally. I am confident that it would prevent a multitude of diseases ; and I know of no greater luxury than the comfortable sensation which arises from wearing it, especially after one is a little accustomed to it.

“ It is a mistaken notion, that it is too warm a clothing for summer. I have worn it in the hottest climates, and in all seasons of the year, and never found the least inconveniency from it. It is the warm bath of a perspiration, confined by a linen shirt wet with sweat, which renders the summer heats of southern climates so insupportable ; but flannel promotes perspiration, and favors its evaporation ; and it is well known that evaporation produces positive cold.

“ I first began to wear flannel, not from any knowledge that I had of its properties, but merely on the recommendation of an able physician ; and when I began my experiments, I little thought of discovering the physical cause of the good effects which I had experienced from it, nor had I the most distant idea of mentioning the circumstance. I shall be happy, however, if what I have said or done upon the

subject, should induce others to make a trial of what I have so long experienced with the greatest advantage, and which I am confident they will find to contribute greatly to the health, and consequently to all the other comforts and enjoyments of life."

Had Sir Benjamin known how far your Manufacture exceeds flannel, both in agreeableness and use, he would have been still more lavish in praise of it. Indeed it is hardly possible to say too much in favor of a medicament of such extensive powers, and which is so pleasant in the application. Many people, who cannot bear the harsh feel of flannel, find the FLEECY HOSIERY extremely agreeable; and indeed the finest down cannot be more delicately soft than fine wool spread on the surface of a texture similar to that of your manufacture. That it is infinitely more pleasure to the wearer than flannel, I can attest from my own experience.

On a review of those diseases in which flannel is known to act, either as a preventative or remedy, they will be found more numerous than all that are cured by any one article of the *Materia Medica*; yet the powers of flannel, even in its most improved state, fall greatly short of those possessed by the FLEECY HOSIERY. It is not only of a superior fabric, but its warmth can be increased to almost any degree, which cannot be done with flannel without rendering it too heavy for use.

Your invention is still in its infancy; but, from what has already been done, we may venture to foretell, that it will become one of the

most extensive branches of manufacture,* as well as one of the most useful remedies ; and that it will be of greater service to the afflicted than all the boasted nostrums of the age, while it is entirely free from their dangerous qualities.

I shall now proceed to point out some of those diseases in which your FLEECY HOSIERY will be found the best application, not merely as a preventive but as a remedy ; and here I must study brevity, as the subject is by far too extensive to be fully discussed in the compass of a letter.

THE FLEECY HOSIERY will, in general, be found an excellent medicine, both for the prevention and cure of all diseases arising from obstructed perspiration. These in our climate include a great variety of disorders ; as colds and coughs, catarrhal affections, consumptions, fevers, fluxes, aches and pains, piles, rheums, inflammations, &c. To treat of all the diseases arising from this cause would require a volume, I shall therefore only touch on such as occur the most frequently, and in which I think your manufacture the most likely to prove useful.

* As a branch of manufacture, applying the staple produce of America to many new uses, FLEECY HOSIERY claims the attention of land owners of every description.—SMITH, in his Memoirs of wool, &c. observes, “ *That wool is an eminent part of the landed interest, and constitutes a share of that part of the English wealth which belongs to the Nobility, Gentry, and Clergy of this kingdom.*” Sir JOSEPH CHILD in his Treatise on wool, and the woollen manufacture, has this observation—“ *That wool is eminently the foundation of the English riches.*”—And Davenant, in his Treatise on the Balance of Trade, says, “ *That among the national calamities, incident to England, this is reckoned one,*”—for wool to sink in its price. F. W.

COLDS AND COUGHS.

The physician who said that colds killed more than plagues, told a serious truth. Had he taught us how to avoid them, he had been one of the greatest benefactors to the human race that ever appeared. Though your manufacture may not absolutely effect this great purpose; yet the proper use of it will go a greater length, both in the prevention and cure of colds, than the application of any medicine with which I am acquainted. Most people place confidence in drugs when they have caught a cold, which only destroy their appetite, while the complaint might with ease and safety be removed by a proper addition to their clothing; but it is in the nature of man to despise things that are plain and obvious, and to hunt after secret medicines; he neglects what is in his own power, while he has implicit faith in the boasted nostrum, merely because he is ignorant of what it consists.

CATARRHAL AFFECTIONS.

Catarrhal affections are of the nature of colds, and arise from the same cause, *viz.* an obstructed perspiration. An increased secretion from the glands of the nose, fauces, and throat, accompanied with some degree of fever, mark this disease, which, in cold and moist states of the atmosphere, proves often so common as to constitute a true epidemic in this country. The only method of avoiding such complaints is to counteract the influence of the weather, as far as lies in our power. Your happy discovery

has enabled us to do this more effectually than any thing heretofore invented ; without loading the body with clothes, it may now be kept sufficiently warm, and the perspiration pretty uniformly supported, even in the most unfavorable states of the atmosphere.

CONSUMPTIONS.

Sudden transitions from heat to cold, change of apparel, or whatever greatly lessens the perspiration, often prove the remote causes of consumption. To avoid a malady which proves so fatal to the inhabitants of this island, we must endeavour to keep that discharge as uniform as possible, by adapting our clothing to the state of the atmosphere. Nor are the benefits of FLEECY clothing confined solely to the prevention of consumptions. In the incipient thisis, which is generally attended with a short, hicking cough, the prudent use of this warm clothing will be found perfectly consistent with the soundest medical practice ; when the patient's strength is exhausted with colliquative sweats, the FLEECY clothing will be improper.

F E V E R S.

That the simple inflammatory fever is generally occasioned by an obstructed perspiration, admits of no doubt. The effect of cold is to augment the tone of the system, by which means the action of the heart and arteries is increased, and what is called the inflammatory diathesis induced. Indeed every symptom of this disease shews a plethora, or too great fullness

of the vessels, which is the well-known effect of an obstructed perspiration. The way to prevent this fever, of course, is to keep up a regular perspiration ; and to restore it when diminished, is the best method of cure.

INFLAMMATORY AFFECTIONS.

Local affections of the inflammatory kind, as Saint Anthony's fire, the acute rheumatism, inflammation of the breast, bowels, &c. are likewise the genuine offspring of obstructed perspiration. In countries where the perspiration goes on uniformly, these diseases are hardly known; but every one knows their frequency, and multitudes feel their direful effects, in this country. They are still, however, more dreadful in colder climates, where, as we learn from Boyle's History of Cold, the inhabitants often die of affections of the bowels, accompanied with the most excruciating torment. There can be no doubt but a proper application of your manufacture might be of great use in preventing these maladies.

D I A R R H O E A.

The diarrhœa, and other affections of the bowels, are often occasioned by obstructed perspiration ; nor can any thing relieve these complaints more effectually than restoring this necessary evacuation. I have often known an obstinate looseness cured by the patient's wearing flannel next his skin ; but whatever can be done by flannel, more is surely to be expected from the use of your manufacture ; and I would

advise all persons who have tender bowels, to keep up a due perspiration, by wearing it of a proper thickness. This will be found more agreeable, and likewise more safe than the use of astringent medicine.

DYSENTERY.

A modern medical author, in his Treatise on Tropical Diseases, “ considers the dysentery, or bloody flux, as a *fever of the intestines* ; and adds, “ that the cause is *obstructed perspiration*, and that the cure consists in turning back the circulation to the surface of the body, and increasing the perspiration by the most active *sudorifics*.”* Now it is evident that no kind of medicine can promote perspiration, so speedily and to that degree which a shirt or dress of FLEECY HOSIERY is capable of, when made of a sufficient thickness. By this the perspiration may also be continued for any length of time, without that inconvenience to patients, which must unavoidably be occasioned by repeating internal medicines, and by hot rooms and a heavy load of bedding.

HYPOCHONDRIACAL AFFECTIONS.

All people of delicate nerves have tender bowels, and though they should not wear it any where else, they would do well to keep the stomach and bowels covered with a piece of your comfortable clothing, of a sufficient thickness. Even this partial use of it will, in many cases, be of singular service. Those who have

* Dr. Measeley.

weak lungs, will reap equal benefit from wearing a piece of it over the breast.

INFLAMMATION OF THE THROAT.

Those who are subject to the common angina, or inflammation of the throat, will find a piece of your FLEECY HOSIERY, worn about the neck, the best preventive, nor is it by any means an indifferent remedy. It is more efficacious, and much more agreeable, than the common practice of applying a dirty stocking round the neck. When the disease does not yield to this, it will be necessary to rub the throat with a liniment made of equal parts of olive oil and spirits of hartshorn, and to apply the hosiery over it, of a considerable thickness.

GOUT.

Among the foremost in the list of those diseases, where the FLEECY HOSIERY is proper, stands the gout. Persons subject to this disorder ought to keep up the perspiration at all times, especially in the extremities. This will be found one of the safest and best preventives, and also the most agreeable that can be employed. To keep the part easy, soft, and uniformly warm, is almost all we can do, during a paroxysm or fit of the gout. For this purpose there is not any thing better calculated than the FLEECY HOSIERY. I have recommended wool in the gout, for above thirty years, and have never found cause to change my opinion of it.* Your manufacture, however, is in many respects pre-

* See Domestic Medicine, under the Article Gout.

ferable to wool, as it possesses all its properties without the inconveniences attending the application of it.

The gout has in all ages been reckoned the REPROACH OF MEDICINE; and the wisest among the faculty, have ever been the most cautious in their treatment of it. Notwithstanding the boasted nostrums of ignorant quacks and pretenders to medicine, we are not at this day in possession of a remedy for this painful disorder. All that the physician can do is to recommend a proper regimen, during the intervals of the disease, and to give directions for the treatment of the patient while under the fit or paroxysm. The former consists chiefly in temperance and exercise, and the latter in keeping the part affected easy and uniformly warm, as recommended above. Patients who follow this plan may live many years, notwithstanding their having regular fits of the gout; while those who disturb the progress of this capricious malady, by medical applications, will be found to sport with their own lives, and will often have cause to repent of their impatience and temerity.*

R H E U M A T I S M.

The rheumatism is not only a more common, but also a more obstinate disorder than the gout. That it admits of no remedy, save *patience and*

* The pain and swelling occasioned by the gout is sometimes relieved in a few hours, by the warmth and perspiration brought on by wearing thick-fleeced ankle-socks, &c. and FLEECY gloves have restored hands that had been fixed by the gout, and rendered useless for many years. F. W.

flannel, is an old adage. We can now, however, boast of a remedy far superior to the best flannel. The advantages of the FLEECY Hosiery over flannel will appear on the slightest inspection ; but on trial it is still more obvious. I have often recommended it in rheumatic affections, and have never been disappointed in my expectations from it. In the chronic rheumatism, indeed, it requires time ; yet even here it will be found to perform a cure sooner than any other remedy. In this species of rheumatism the patient is often put to much trouble and expence in attending the mineral waters, and warm baths ; but many cannot afford to do so, and we are inclined to think, that the necessity of repairing to those fashionable places of resort might often be superseded, by using the FLEECY clothing for a sufficient length of time. It has this advantage over warm water, that its operation is continual, whereas the other can only be applied for a very limited time.*

ACHES AND PAINS.

In every part of this island, where I have been, the old people universally complain of what they call *pains in their limbs*. This is evidently a species of the rheumatism, and is peculiarly incident to women who live on poor diet, are thinly clothed, and inhabit cold, damp houses. It does not appear to me, that any

* References can be given to many persons in America, who have been relieved from the rheumatism, in a short time, after having been long afflicted with it. F. W.

thing could be so beneficial to these people as to have their limbs clothed in your comfortable woolen manufacture. This would certainly prove the best preservative against those pains, which not only render these poor people very miserable, but often a burden to society. They cannot indeed always purchase it themselves, but the benevolent could not employ their charity better than in supplying them with an article so necessary for health ; and even those who have the care of the poor ought, on principles of economy, to supply them with this kind of clothing, to prevent their becoming totally unfit for labour, and consequently a greater burden to the public.

P I L E S.

This painful disorder is often occasioned by cold. I have known it induced by sitting on the damp ground, throwing of a flannel petticoat, or wearing a thinner pair of breeches than usual. Persons subject to the piles, ought carefully to avoid every thing that may excite a disease so disagreeable in itself, and which often ends in obstinate sores or fistulous ulcers. It does not appear to me, that any thing would prove more efficacious, in warding off this painful malady, than the proper application of the FLEECY clothing, particularly towards the seat of the disorder ; nor will it be found less useful as a remedy, when the disease has actually taken place.

D R O P S Y.

There is no disease the cure of which depends more on promoting perspiration than the dropfy. In all patients labouring under this malady the secretion from the skin is defective, and ought by all means to be promoted. This cannot be done so effectually, as by wearing your manufacture of a sufficient thickness. I am credibly informed, that the dropfy has been cured by the patient's wearing your FLEECY HOSIERY, after the most powerful medicines, accompanied with the use of flannel, had proved totally ineffectual.*

A S T H M A.

People afflicted with the asthma are always in danger, and often lose their lives from a sudden check of perspiration. They ought carefully to watch the changes of the weather, and to fortify themselves against them by adapting their clothing to the temperature of the atmosphere. I would advise asthmatic patients to beware of the cold, raw, easterly winds, which prevail in our spring, and towards the setting-in of winter, and to avail themselves of your happy discovery for counteracting their influence.†

* The Dr. has lately favored us with an instance of the beneficial effects of the FLEECY HOSIERY in the dropfy. A young lady who had been under the care of several physicians for this obstinate malady, without receiving any relief, was by his desire clothed from head to foot in the FLEECY HOSIERY, and he has been informed that she soon afterwards got quite well. F. W.

† A person who had been a long time very ill of the asthma was greatly relieved by wearing a thick fleeced shirt. F. W.

A P O P L E X Y.

The apoplexy is now so frequent as to become truly alarming. It seldom, however, attacks people until the decline of life, when the perspiration becomes defective, and the skin grows dry and rigid. When the discharge from the skin is obstructed to such a degree, that the superfluous moisture of the body cannot be carried off by the other emunctories, or common outlets, a *plethora*, or too great fullness of the vessels, must ensue. This will induce a predisposition to apoplexy. To ward off the dreadful blow as long as possible, the perspiration must be kept up; and I know not any thing more proper for this purpose than your FLEECY HOSIERY, prudently applied, and accompanied with a sufficient degree of bodily exercise.

P A L S Y.

The apoplexy and palsy make their attack about the same time of life, and often accompany each other, which renders it probable that, in some measure, they depend on the same cause. That your manufacture is calculated to prevent the palsy, I will not take upon me to say; but I am certain that, in many cases, it will be found a very proper remedy.* The torpor of a paralytic limb renders some warm and stimulating

* A paralytic stroke left a lameness and perpetual pain in the knee of a gentleman advanced in years, for which he consulted the most eminent of the faculty, but obtained no relief for three years; at last he had recourse to FLEECY HOSIERY, which wholly removed the pain, and gradually restored the strength of the knee: F. W.

application necessary ; and this intention is more likely to be answered by your hosiery than flannel, as it not only possesses a greater degree of warmth, but is, from its texture, better adapted to act as a stimulous to the skin.

DEAFNESS.

Few things prove more troublesome to persons in the decline of life than deafness. This is generally occasioned by cold in the head. I have often known deafness cured by a warm night-cap ; and would recommend it to all who are afflicted with this malady, to wear caps of your manufacture. These caps will not only remove deafness, but will be found likewise to obviate many other complaints, as the tooth-ach, head-ach, pains of the face, &c. In all cases where the head is wet, either by bathing or violent exercise, these caps will be found of the greatest service. This I am told has been frequently experienced by sportsmen, who by using them when heated in the chace, have never caught cold. There are no people so careless as the inhabitants of this country, with regard to the covering of their heads during the night ; and this neglect is the source of many disorders, besides those mentioned above.*

SKIN DISEASES.

Cleanliness and warm clothing are the great preventives of skin diseases. Where the skin

* A deafness, of several years continuance, that had withstood every medical application, was totally removed in a short time, by wearing a FLEECY night-cap. F. W.

is not sufficiently defended against the inclemency of the weather, it becomes rigid, and consequently unfit for transmitting the perspirable matter through its pores. The internal disorders, arising from this cause, have already been taken notice of. The external are, scabby and scaly eruptions, foul blotches, defecation of the skin, chilblains, and such like. These are always found to prevail most among the poor, who go dirty and are ill clothed. The chilblains, indeed, affect young people of all ranks, yet this complaint might generally be prevented by keeping the feet and legs dry, and sufficiently warm. For this purpose I know of no application equal to your foot-socks and fleecy hose.*

A G U E.

In countries where agues prevail, and the pallied inhabitants are shook, like the aspine leaf, for at least one half the year, there is reason to believe, that a species of clothing so perfectly adapted to defend the body against the moisture of the atmosphere, and keep up an uniform degree of warmth, would be found superior, both in safety and efficacy, to any internal medicine whatever. Indeed the internal medicines made use of for this purpose, are generally of such a nature that, if they keep off one disease, they induce others, which prove equally, if not more fatal.

* Several persons, who had tried various medicines for the fever, without relief, had recourse to shirts and drawers of FLEECY HOSIERY; and, after wearing them a short time, the disorder came off in scales, and left their skins perfectly clear.

FLEECY HOSIERY, IN VARIOUS SITUATIONS, THE BEST PRESERVATIVE OF HEALTH.

How pernicious that kind of clothing must be which retains the moisture, and keeps it in continual contact with the body, to men who work in damp situations, will appear from Sir Benjamin Thomson's experiments ; and the advantage of the FLEECY HOSIERY, in conducting it off, will be no less obvious. Spalden, the celebrated diver, told me that he could not live under water in any dress but flannel. In other clothing he was chilled with cold, but, with a sufficient quantity of flannel, he found himself pretty comfortable.* Had he known the superior advantages of your manufacture, he would no doubt have been still more so.

To travellers, in cold countries, your manufacture must be of the greatest use, particularly the FLEECY gloves, pantaloons, foot-baskets, and great coats. The extremities always suffer most from cold, and are in the greatest danger of mortification. I shall not be surprised if your manufacture become the common clothing of the northern nations. Where the inha-

* Dr. MOSELEY relates, that "Dr. IRVING, with a small party of men, lay in the woods, on the Musquito shore, for fourteen days and nights, during the rainy season of 1780, without taking off his clothes, while he was exploring a passage to the Spanish settlements up Blue-Fields River. He escaped without the least injury to his health, having blankets with him, and being clothed in a shirt, short jacket, breeches, and stockings, all made of flannel. The others, not using the same clothing, suffered severely, without expoling themselves to the same fatigue and danger."

bitants are obliged to have recourse to furs in winter, the FLEECY clothing will, I am convinced, be found to answer their purpose much better, and will likewise prove far more agreeable to the wearer.*

It will not, however, so readily occur, that the FLEECY HOSIERY is the most proper clothing for the inhabitants of the hot climates ; yet this is acknowledged to be the case by all who have made the trial. It can certainly be made more light than any other kind of clothing, and with so thin a sprinkling of wool as to act more as a cooler than a heater of the body, while it conducts off the moisture from the skin much faster than any other kind of clothing.†

There is no set of men to whom the FLEECY HOSIERY is more likely to prove beneficial, than those who have lived in hot climates ; they universally complain, that, even with the warmest flannel and thickest clothing, they are

* This new manufacture, in proportion as it is encouraged, must save much wealth to the nation, which is now expended in purchasing furs, and by extending the usefulness of the staple product of America, both at home and abroad, confirm the opinion of the late LORD HEATHFIELD, expressed in his declaration respecting FLEECY HOSIERY—"That the manufacture will, when generally known, be of national importance." F. W.

† Since this letter was first published, we have had occasion to converse with several intelligent persons who had resided in the warm climates, all of whom agree in thinking, that light woollen clothing is better adapted to the hot countries than linen ; according to their experience and observation, the former is found to conduct and carry off the moisture, while the latter retains it, and, instead of defending the body against its influence, increases the danger. From the best information, we have reason to believe, when the qualities of the light FLEECY HOSIERY are sufficiently known, that it will be found equally proper for the inhabitants of the Tropical as of the Polar regions.

not able to support the inclemency of our winters. Those, however, to whom I have had an opportunity of recommending your manufacture, have all told me, that, by wearing it next their skin, they have found themselves sufficiently warm and comfortable, even in the coldest season.

All persons who sit to read, write, or work, especially in cold rooms, such as many of the public offices are, ought to have their feet and legs clothed in your FLEECY HOSIERY. For the circulation in the limbs is obstructed by much sitting, and a chilly torpor brought on the feet and legs, which paves the way to edematous swellings, paralytic affections, and the like. Most women may be ranked among the sedentary, and many of them are afflicted with various maladies arising from this cause. It is impossible to say too much in favor of your manufacture; worn as under garments by the ladies, in a climate so variable as ours, where more than half the diseases which afflict the sex will be found to arise from cold.

In cases of suspended animation, as it is called, where a person is to all appearance dead, and where the great object is to recall the latent principle of life, by restoring the genial warmth, and exciting the actions of the system, it will be readily allowed, that few things are likely to have a more happy effect than wrapping the body in some of the thickest of your FLEECY HOSIERY, made as hot as possible. This will not only receive a much greater degree of heat than a common blanket, but, retaining the heat longer, will be

found a much more suitable application than the other, while it is sooner and more easily prepared than a warm bath.

I can imagine many situations where your manufacture would be of singular service, both to sailors and soldiers. The former are often obliged to keep on their wet clothes for several days together, and the latter to continue in camp during cold and wet seasons, or in a low damp country. I have been told by several of the officers who lay in camp on New-castle Moor, in winter 1745, that half the army must have perished by cold, had it not been for the flannel waistcoats given to the soldiers by the good people called Quakers. No one who has seen it needs to be told, that your manufacture would prove more beneficial than flannel to men in such situations.

That warm clothing would greatly contribute towards the preservation of the military, in hot as well as in cold climates, is evident from Dr. MOSELEY's Treatise on Tropical Diseases. In almost every page of this useful work, the Doctor shews the necessity of flannel, or some other warm clothing, for preserving the health of men exposed to the excessive rains and chilly dews of tropical climates. Of the good effects of this he gives many instances. Nor were its benefits confined to the preservation of health: in the cure of all complaints arising from obstructed perspiration, which even between the tropics are very numerous, the most successful practice was to restore that necessary evacuation as soon as possible. How well the fleecy clothing is calculated to effect this important purpose must be obvious to all.

In point of economy, few things will be found to equal your invention. It will not only supersede the use of furs, but, in many cases, even of fuel; which, to the inhabitants of cold countries, proves very expensive. Nor does the evil end here. Persons who sit roasting themselves near a great fire injure their health. They breathe a burnt, unwholesome air, and, after all, are but half warmed. A person clothed in a sufficient thickness of your manufacture will hardly find occasion for fire in any situation; and he will feel himself much more comfortable than by the fire-side, where he is burnt on the one side, and frozen on the other. In one word, your invention may be truly said to unite economy, pleasure, and usefulness; which is more than most of our modern discoveries can boast.

I shall conclude this letter, already too long, by recommending to you the most active perseverance in the prosecution of your plan. You have not only made a great improvement in the woollen manufacture, but also in medicine. Your FLEECY HOSIERY, judiciously applied, will not only in many cases preserve health, but prove more beneficial to the afflicted than any thing that has been discovered in the medical art for these many years: like other useful discoveries, however, it will meet with opposition; but patience and perseverance will overcome it all, and you will find, beside the brave defender of Gibraltar,* many who will

* The Right Honorable Lord HEATHFIELD wrote a letter to the Patentee, setting forth the benefits he had received from the FLEECY HOSIERY, and promising to recommend it to his friends, both at home and abroad.

step forward to do justice to your useful invention.

Wishing you all that success to which your merit is so justly entitled.

I am, SIR,

Your most obedient servant,

March 10, 1790.

W. BUCHAN.

P O S T S C R I P T.

IF the sentiments contained in this Letter wanted the sanction of authority, it would be easy to adduce a number of eminent authors, both ancient and modern, who have entertained the same ideas. The celebrated Boerhaave used to say, that nobody suffered from cold, except beggars and fools: the former not being able to purchase clothes, and the latter not having sense to use them. This certainly shews, that, in the learned Doctor's opinion, the effects of cold might be obviated by a proper attention to clothing.

It is said of the celebrated Mr. Boyle, whose delicacy of constitution rendered it necessary for him to adapt the warmth of his clothing to the state of the weather, that he had a vesture suited to every season of the year; and it is much in favor of his plan, that, although a valetudinarian, he died at an advanced age.

But the author whose sentiments are most in point is the learned Sanctorous, professor of physic at Padua, who first established the doctrine of insensible perspiration, on undeniable grounds, and shewed its importance in the ani-

mal economy, and its influence on health. Though the doctor lived in a more temperate climate than ours, yet the following aphorisms, which are selected from a great number, will shew how much he thought health depended on the insensible perspiration being duly and regularly kept up.

APH. XL. SECT. I.

“ Whensoever nature is disturbed in the business of perspiration, she soon begins to be defective in many more of the animal functions.

APH. LXVII.

“ The external causes are wont to hinder perspiration are, the cold air, and that which is damp and foggy ; swimming in cold water, &c.

APH. LXXXVI.

“ Old age may truly be reckoned a distemper, but it may be long protracted if the body perspires well.

APH. LXXXVIII.

“ The humors of gouty people, even the most thick, are carried off only by perspiration.

APH. XCII.

“ A looseness may be removed by increasing the quantity which is to be perspired, as often happens in warm bathing.

APH. CII.

“ Hypochondriacal persons are cured by promoting perspiration.

APH. CXV.

“ In autumn the weight of the body increases, owing to the diminished perspiration, which, if it be beyond a healthful standard, will produce tertians and putrid fevers.

APH. XIV. SECT. II.

“ Swimming in cold water, after violent exercise, is very delightful, but fatal ; for nothing is more destructive than extremes.

APH. XXI.

“ A cool wind always hinders perspiration, and is hurtful.

“ Any draught of air has the same effect.

APH. XLVI.

“ There is no danger of the autumnal distempers, if the body be well guarded against the increasing cold by warm garments.

APH. XLVII.

“ To be well covered with clothes, assists perspiration, and lightens the body.

APH. L.

“ They who, in spring, throw off their winter garments too hastily, and are too backward in putting them on again in fall, in the summer are subject to fevers, and in the winter to defluxions.”

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Night caps

Boasom friends

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Foot socks

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Long gloves

Under stockings

Stiff stockings

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
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